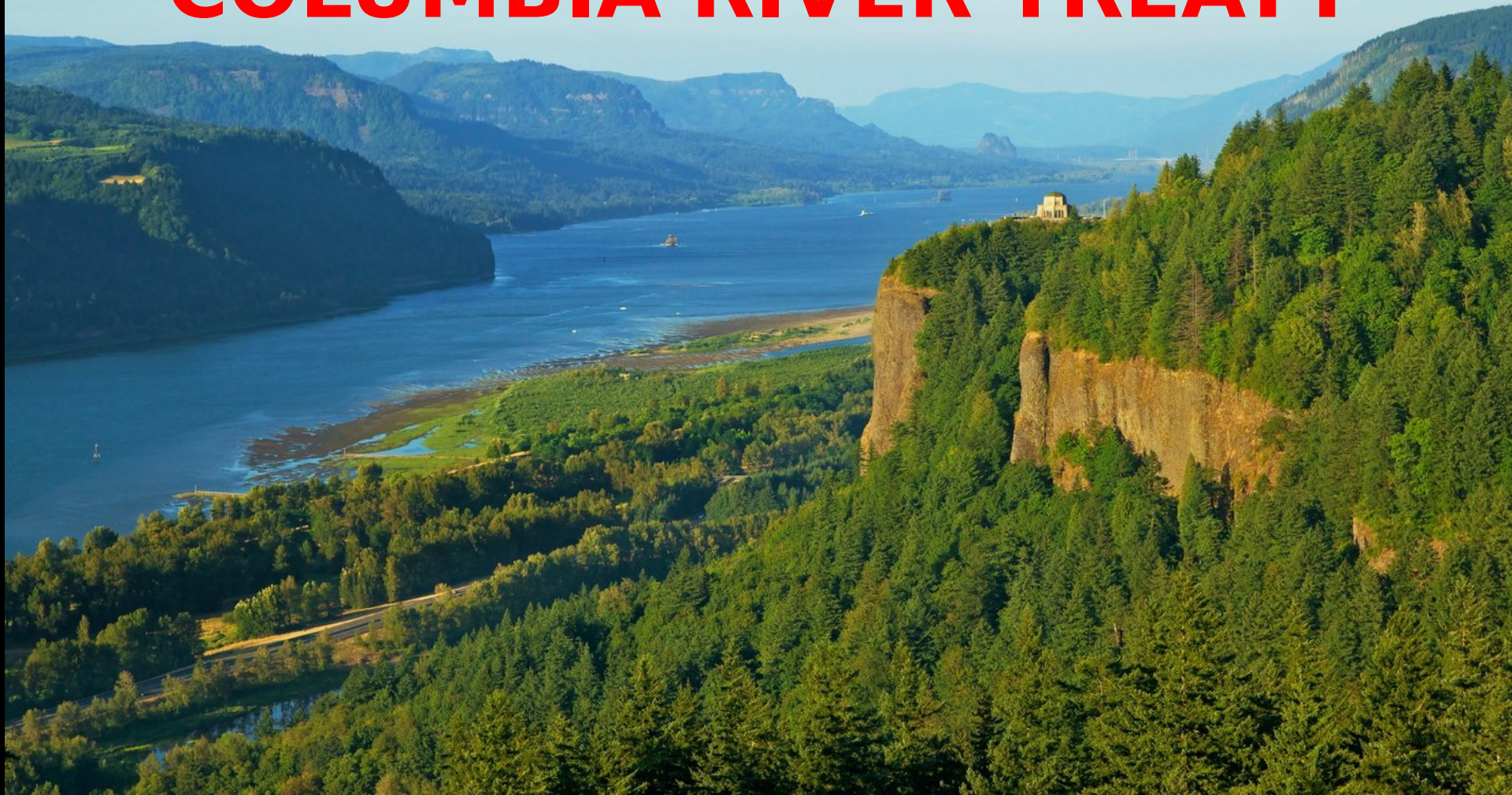


HISTORICAL BACKGROUND of COLUMBIA RIVER TREATY



Uses of Columbia R.

- **Fishing**
- **Navigation**
- **Irrigation (1900)**
- **HYDROPOWER (1930)**
- **Flood Control (1948)**
- **Recreation (1950s)**

PROJECT OWNERS

- **U.S. Government**
 - **Corps of Engineers**
 - **Bureau of Reclamation**
- **Local Government Agencies**
- **Private Power Companies**
- **Local Flood Control Districts**
- **BC Hydro (Canada)**

3 Stages of Development

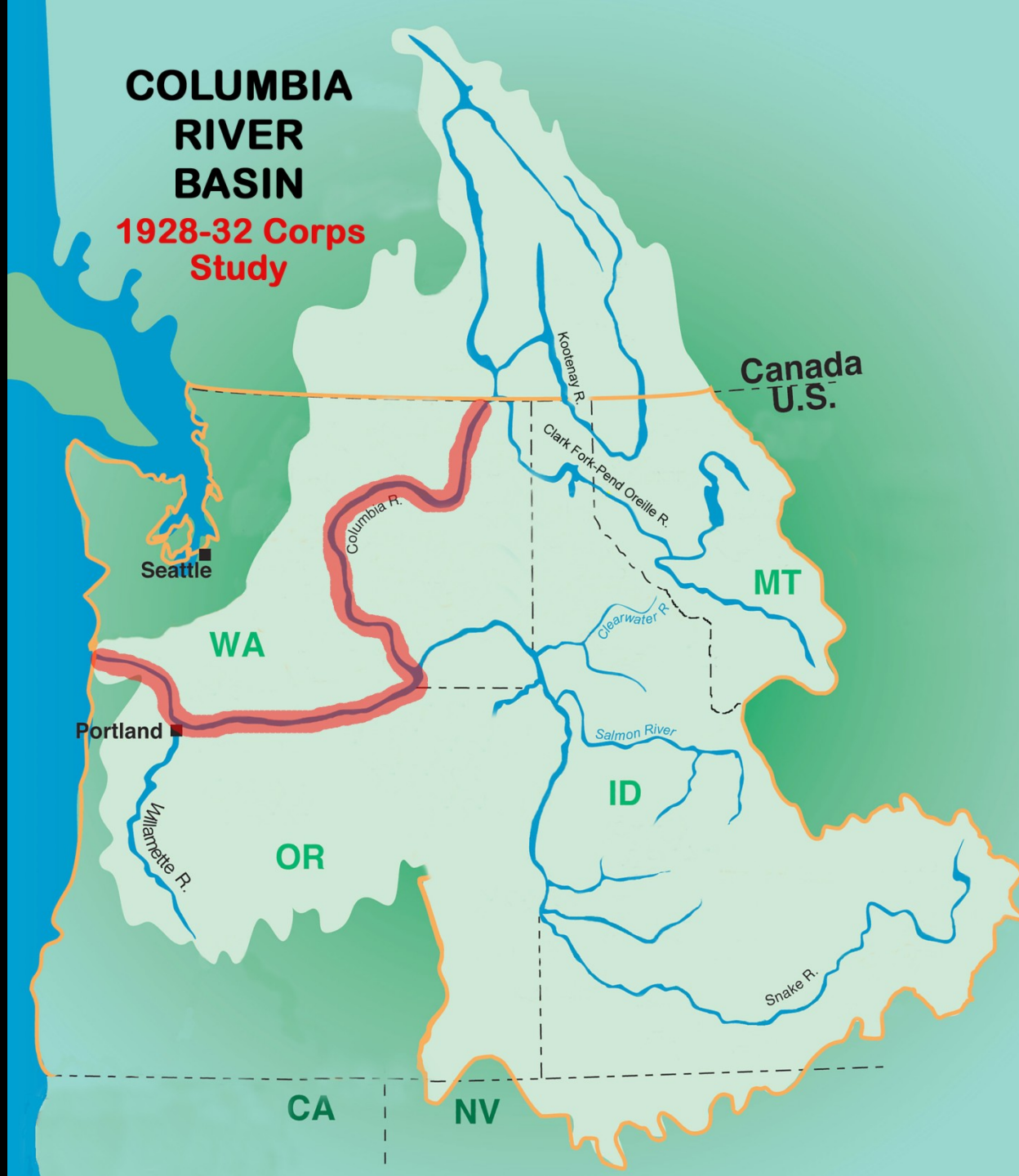
- 1. Run-of-River Dam Stage**
- 2. U.S. Storage Reservoir Stage**
- 3. Columbia River Treaty Stage**

In 1927

**The U.S. Congress
directed
the Corps of Engineers
to develop a plan
for the Columbia River**

COLUMBIA RIVER BASIN

1928-32 Corps
Study



Purposes to be Considered

- **HYDROELECTRIC POWER**
- **Navigation**
- **Irrigation**
- **Flood Control**

COLUMBIA RIVER BASIN

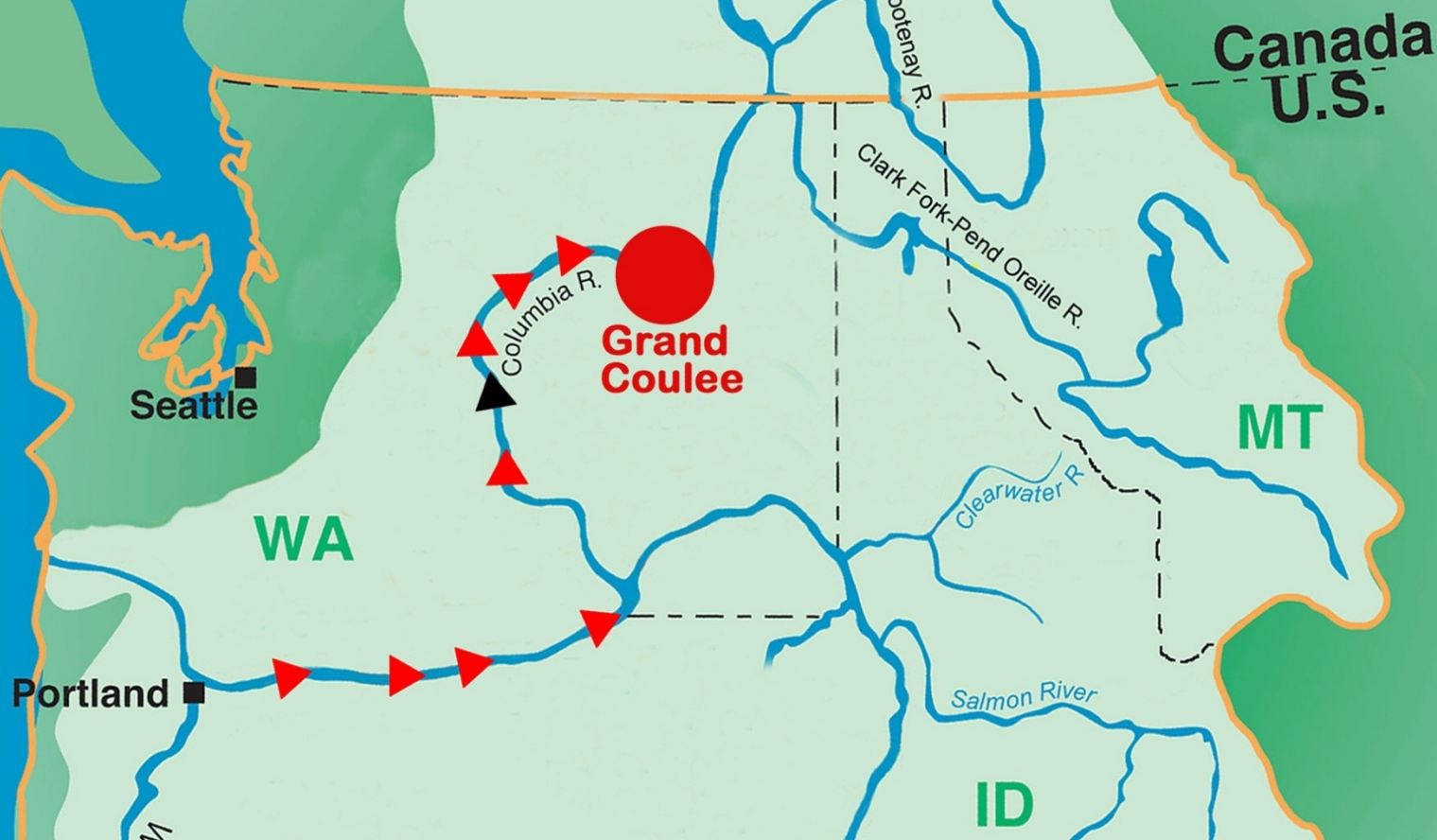
1932 PLAN

▶ run-of-river dam

● storage reservoir

red = proposed project

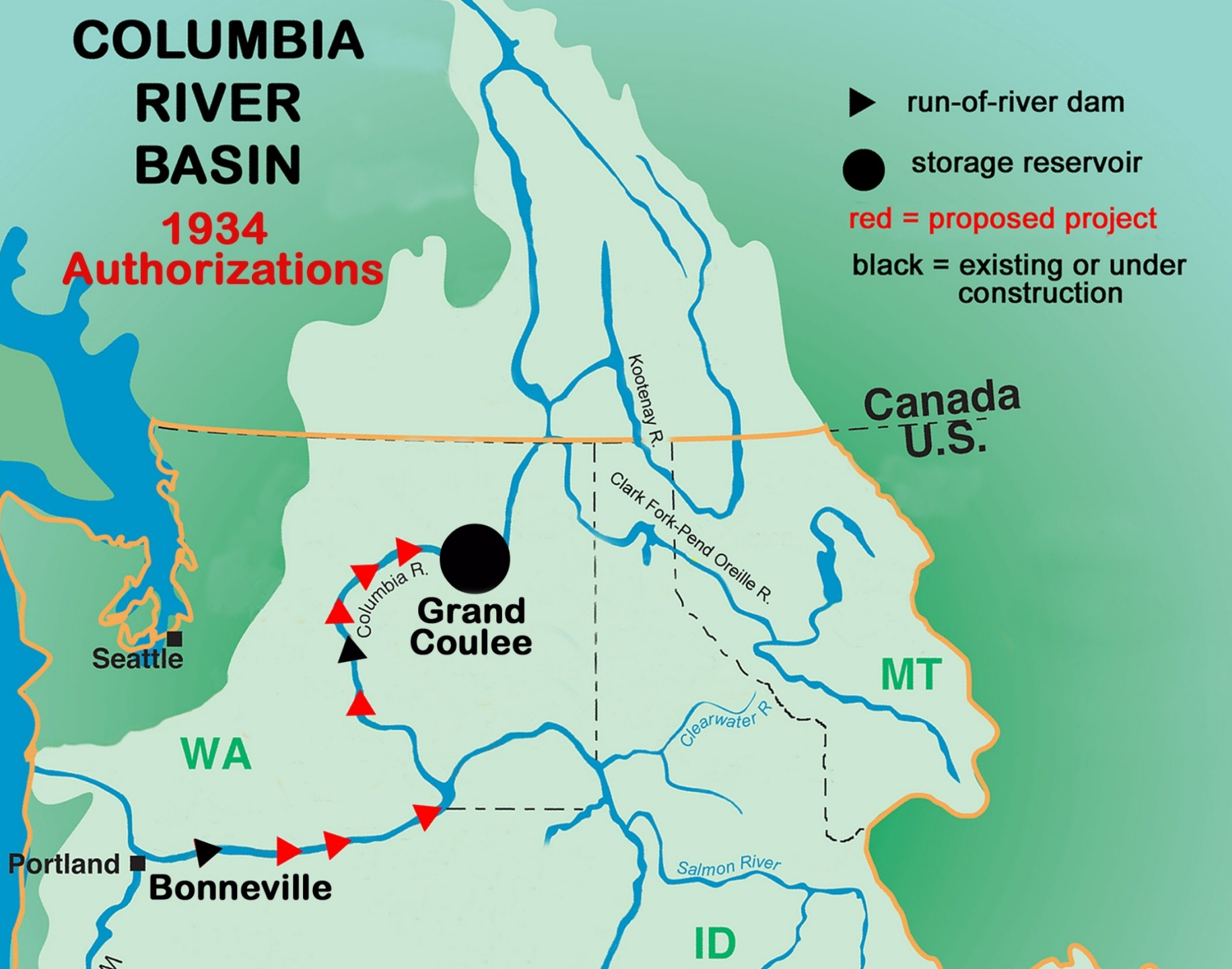
black = existing or under construction

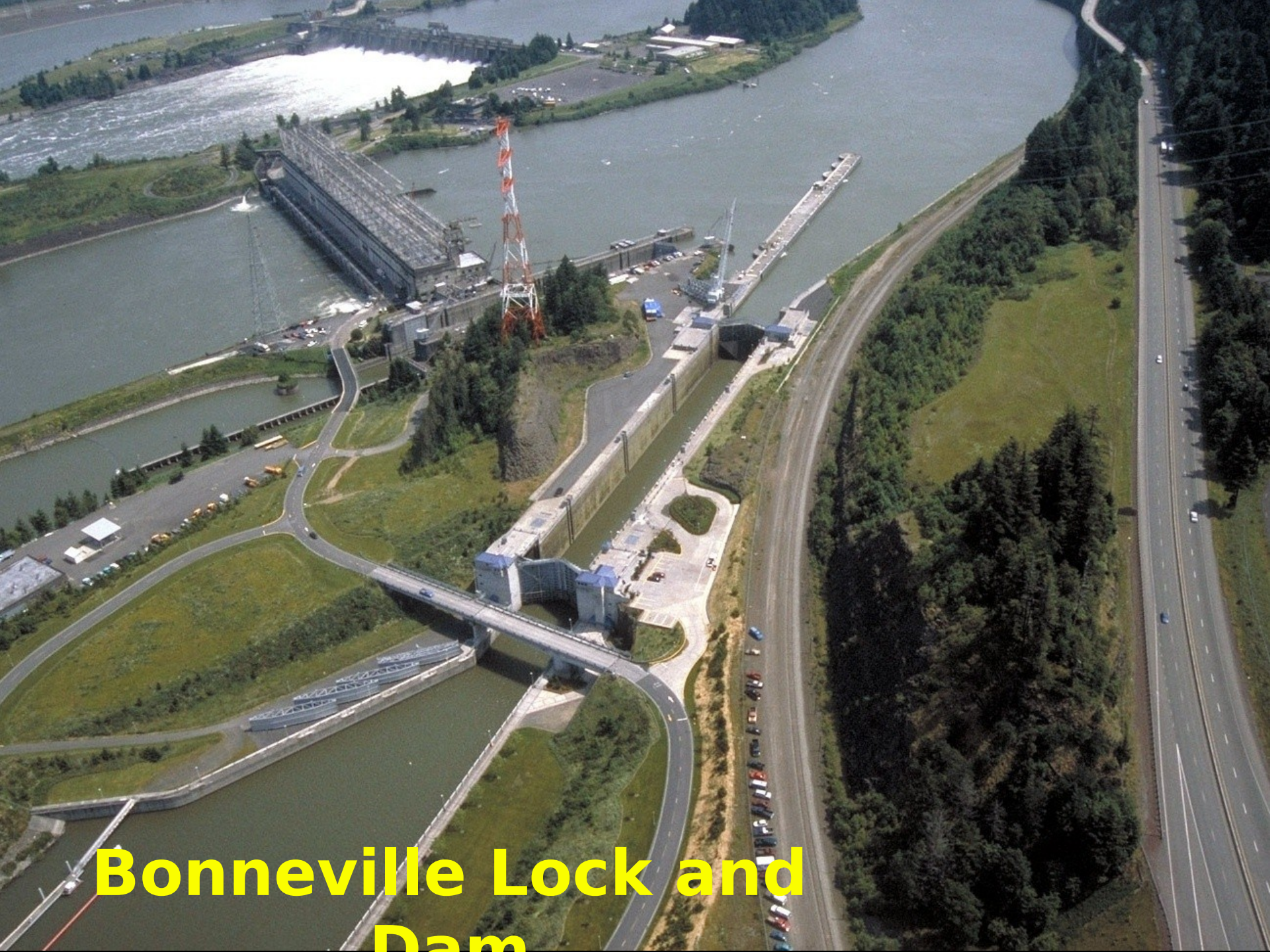


COLUMBIA RIVER BASIN

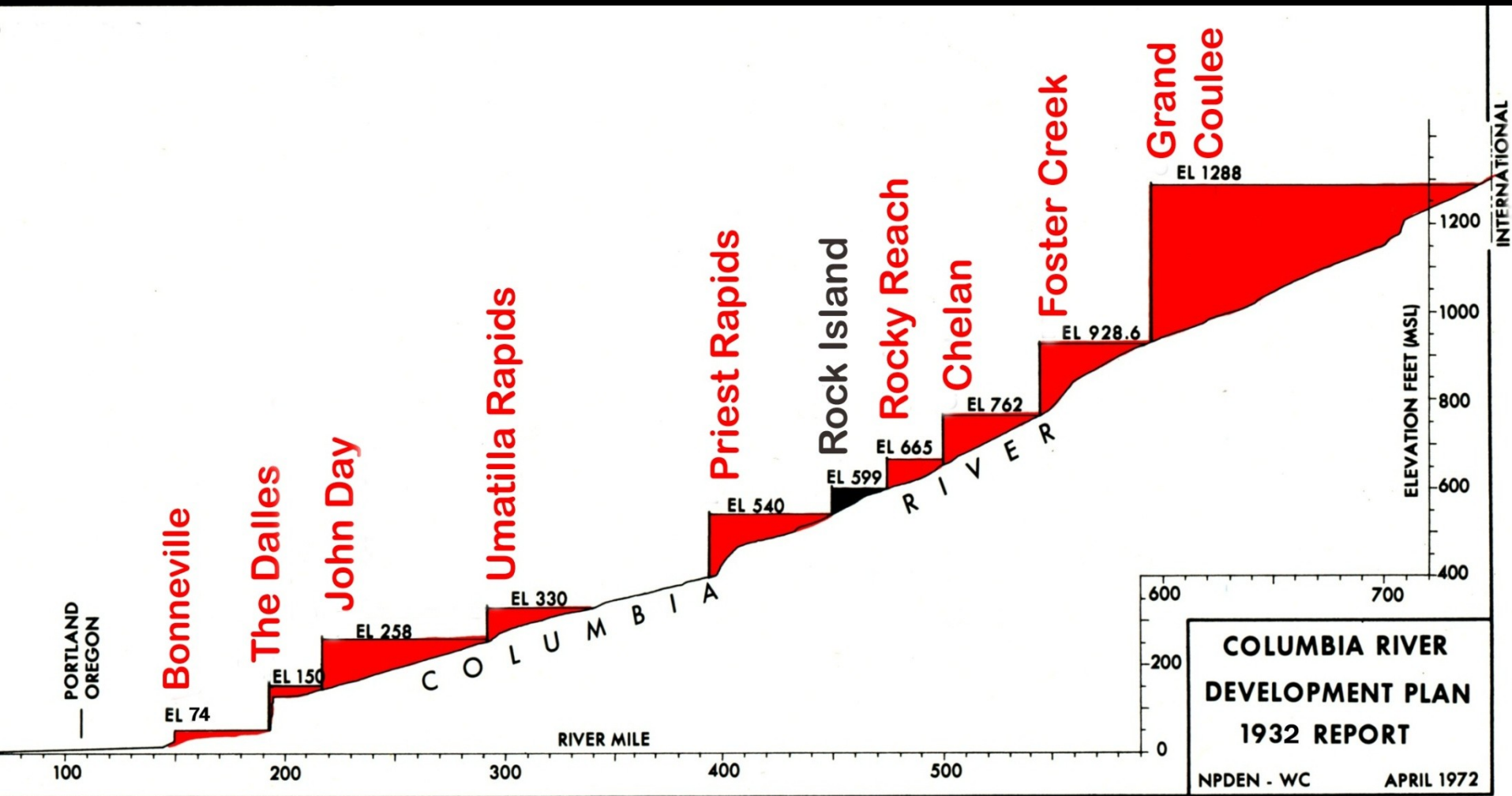
**1934
Authorizations**

- ▶ run-of-river dam
- storage reservoir
- red = proposed project
- black = existing or under construction





Bonneville Lock and Dam



**1937:
Bonneville Power
Administration (BPA)
was created**

3 Stages of Development

- 1. Run-of-River Dam Stage**
- 2. U.S. Storage Reservoir Stage**
- 3. Columbia River Treaty Stage**

Columbia River is a “Snowmelt” Stream

- Maximum streamflow is in the spring and summer
- Minimum streamflow in fall and winter
- Maximum electric power demand is in winter

**Reservoir storage
is needed**

**To develop
the full power output
of the Columbia River
hydroelectric projects**

**In 1943 Corps of Engineers
was directed to study
reservoir storage
in Columbia River Basin**

- **Entire basin to be studied**
- **Complete study by 1948**

**Canada invited to
participate
in the study**

**Canada was
not able to participate
at that time**

**U.S. developed a plan
with storage reservoirs
in the U.S. only**

**The two countries would study
future opportunities
for cooperative development**

The 1943-1948 Corps of Engineers Columbia R. Reservoir Study

- **Main objective was reservoir storage for hydroelectric power**
- **Flood control was not in the original reservoir plan**

Levees to Prevent Flooding



COLUMBIA RIVER BASIN

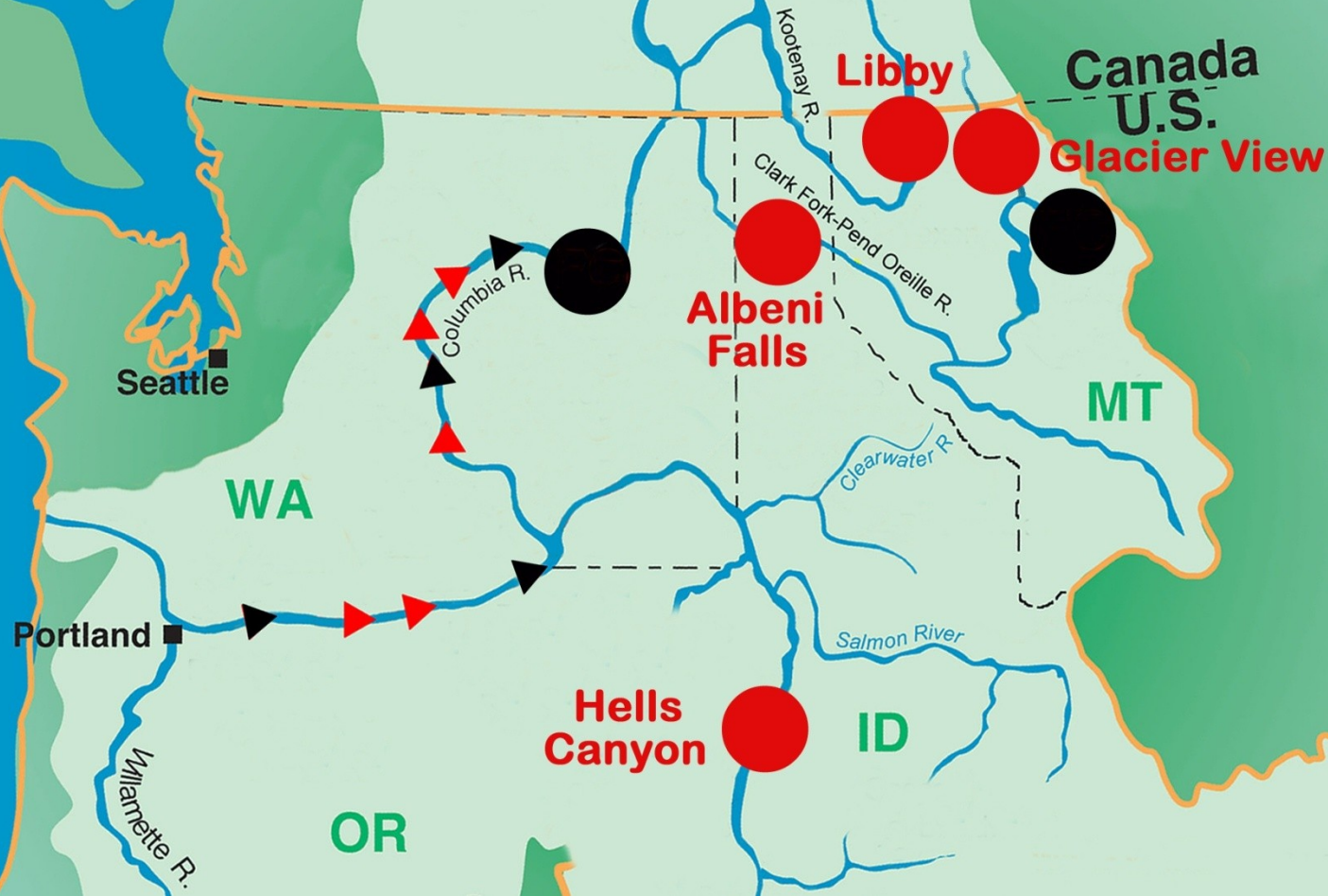
**1948 Plan
(power only)**

▶ run-of-river dam

● storage reservoir

red = proposed project

black = existing or under construction



**During the high water of May
1948 ...**



**THE
LEVEES
FAILED!**



Causing terrible damage!

**The Corps of Engineers
was directed
to revise
their reservoir plan
TO INCLUDE
FLOOD CONTROL**

COLUMBIA RIVER BASIN

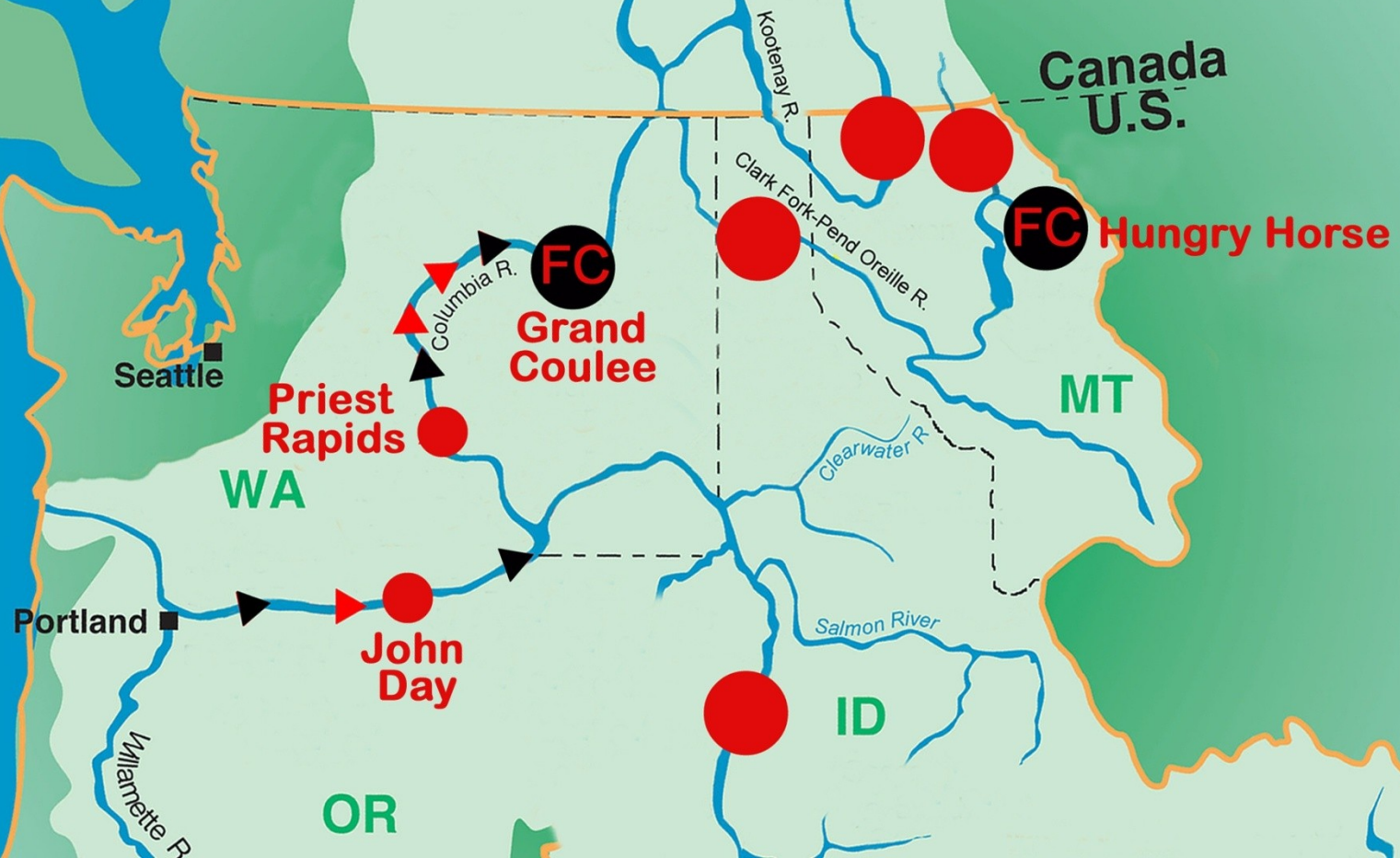
1948 Plan
(with Flood
Control)

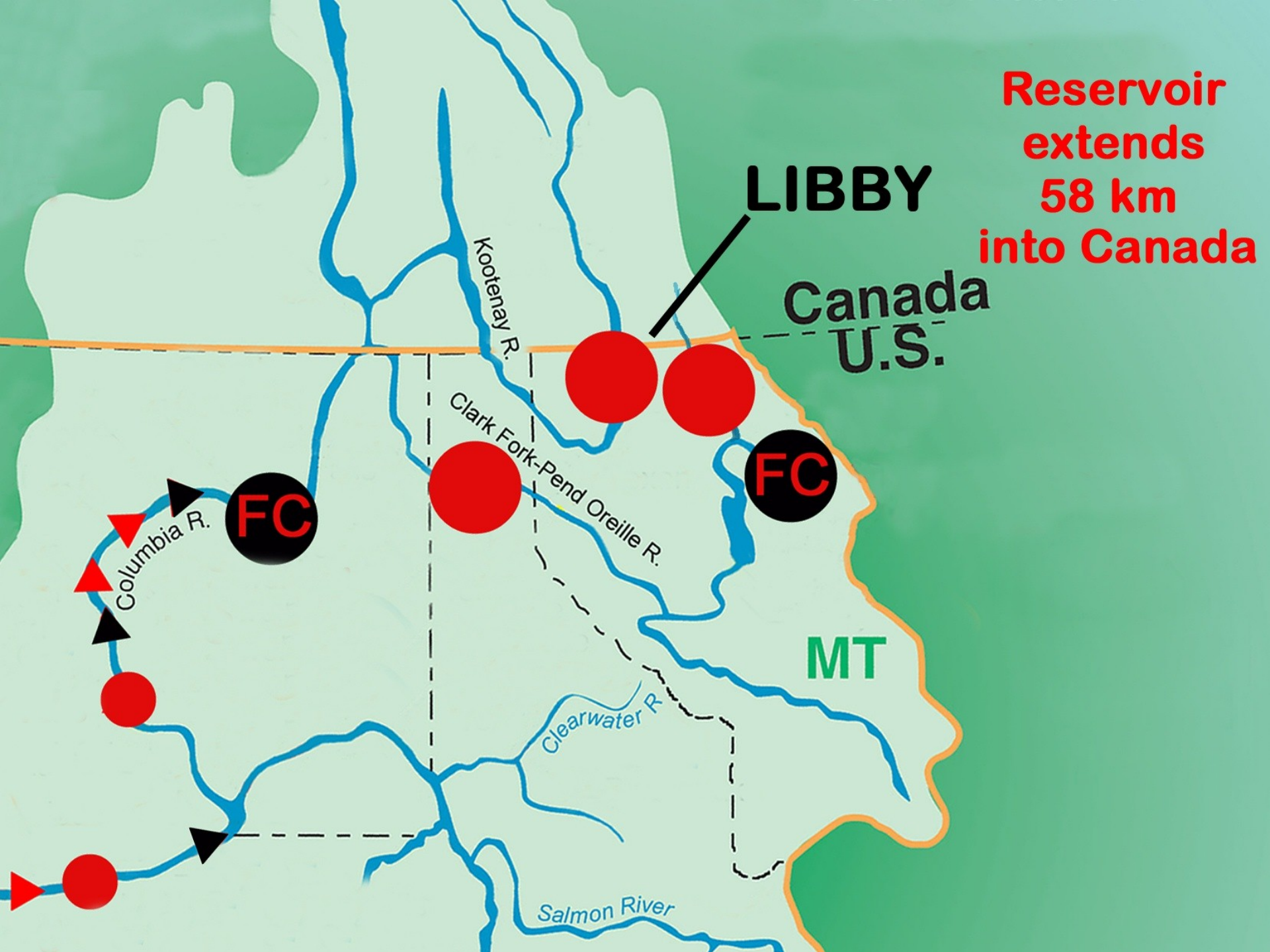
▶ run-of-river dam

● storage reservoir

red = proposed project

black = existing or under
construction





**In 1951 U.S. requested
permission from
Canada
to build Libby**

**Canada did not object
to U.S. building
the Libby project**

**Canada objected to
the payment offered
for the land flooded**

**Canada preferred
a share
of the downstream
benefits**

**Because of
the disagreement,
planning for Libby
reservoir stopped**

COLUMBIA RIVER BASIN

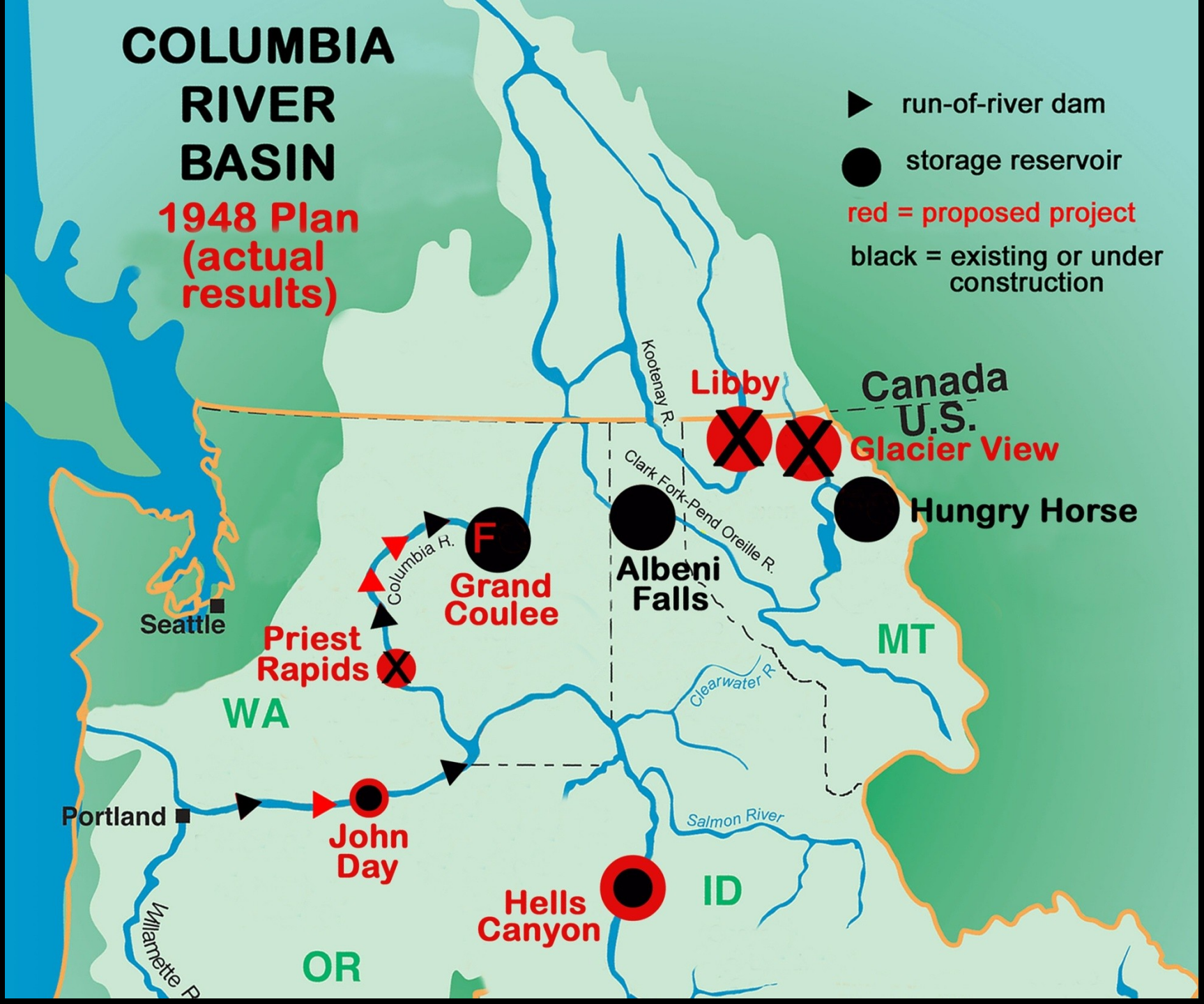
1948 Plan
(actual
results)

▶ run-of-river dam

● storage reservoir

red = proposed project

black = existing or under
construction



**The required flood control
storage could not
be provided**

23.4 km³ (19.0 MAF) required

**7.7 km³ (6.2 MAF) would
be available**

Activities 1952-1957

- **Canada studied possible projects in Canada (including diversions)**
- **U.S. studied possible reservoir projects in U.S.**
- **The two countries continued studying cooperative development of Columbia R.**

3 Stages of Development

- 1. Run-of-River Dam Stage**
- 2. U.S. Storage Reservoir Stage**
- 3. Columbia River Treaty Stage**

1957-1959 Conclusions

- Both countries concluded that joint development was good
- Canada proposed that plans should be made for entire basin, not just Libby
- U.S. agreed and also agreed to share downstream benefits

Columbia River Treaty Negotiated 1960-61

- **February 1960: U.S. and Canada began negotiations on Treaty**
- **January 1961: U.S. President Eisenhower and Canadian Prime Minister Diefenbaker signed the Columbia River Treaty**

COLUMBIA RIVER TREATY

- **Canada built 19.1 km³ (15.5 MAF) of reservoir storage at Mica, Arrow Lakes, and Duncan Lake**
- **U.S. built Libby reservoir on Kootenai River**

COLUMBIA RIVER BASIN

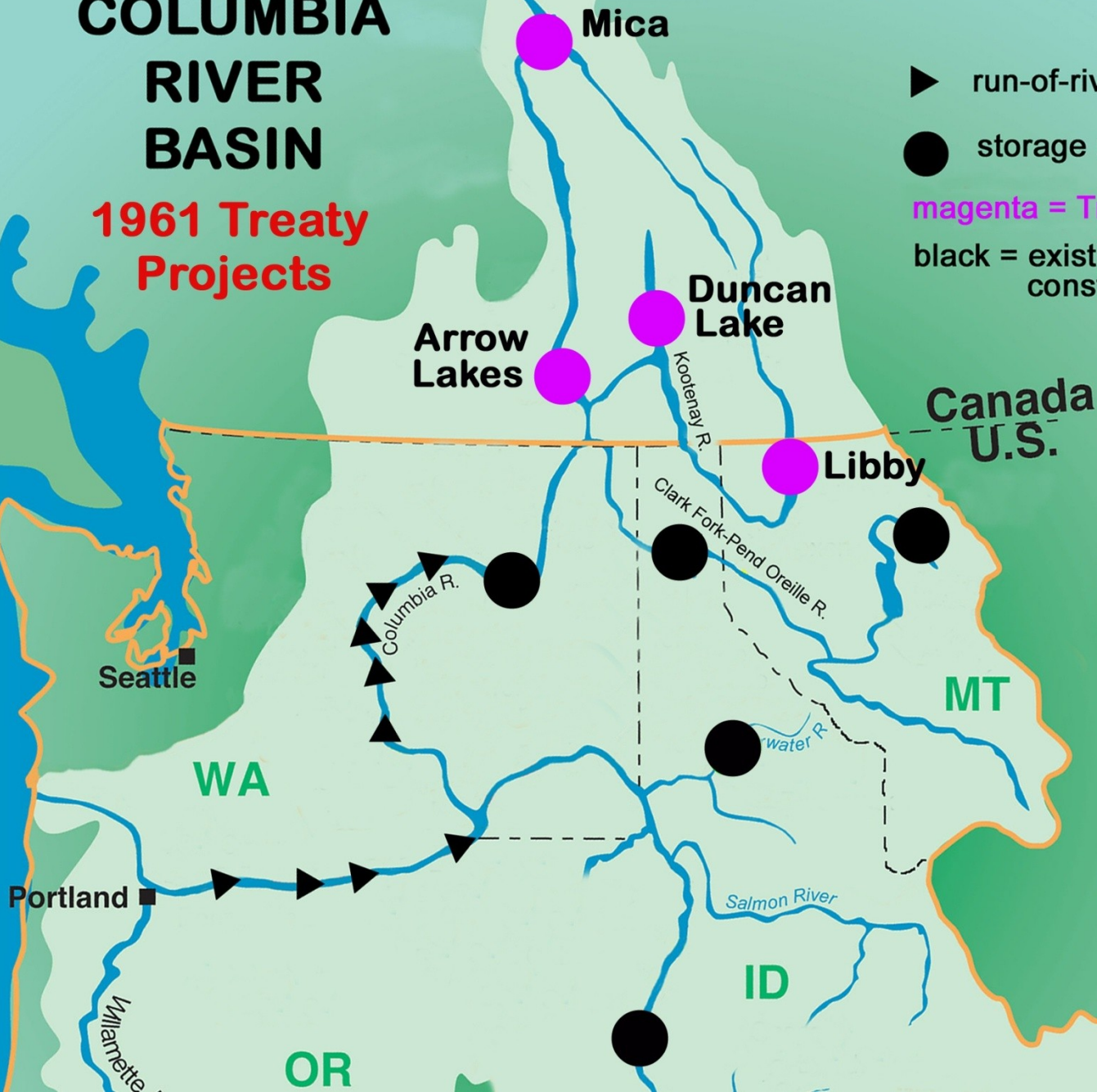
1961 Treaty Projects

▶ run-of-river dam

● storage reservoir

magenta = Treaty project

black = existing or under construction



COLUMBIA RIVER TREATY

- **Reservoir storage regulated for power and flood control**
- **U.S. operates downstream projects to make best use of storage regulation**
- **The two countries share the downstream benefits equally**

Ratification of Treaty

- **U.S. Congress ratified Treaty in March, 1961**
- **Canadian Parliament delayed ratification until 1964**

Reasons for Delay

Canada and British Columbia had to agree on

- **Who would build and operate the Treaty reservoirs (BC Hydro)**
- **How the Treaty reservoirs would be financed (sell power to U.S.)**

Reasons for Delay

U.S. and Canada had to agree on

- **Details for operating the Treaty Reservoirs**
- **How Canadian share of power benefits would be sold in U.S.**

1964 Ratification of Treaty

- 1. Jan. 1964: Protocol on operation of Treaty reservoirs**
- 2. May 1964: U.S. power companies purchased Canadian power benefits**
- 3. Sep. 1964: Pacific Northwest Coordination Agreement**
- 4. Sep. 1964: Treaty became official**

TREATY RESERVOIRS

Duncan Lake 1.7 km³ 1967

Arrow Lakes 8.8 km³ 1968

Mica 8.6 km³ 1973

Libby 6.1 km³ 1973

Financing the Canadian Reservoirs

- **U.S. government paid Canada for half of the downstream flood control benefits for 60 years**
- **U.S. power companies purchased the Canadian half of the power benefits for 30 years**

A scenic landscape photograph of a sunset over a large body of water, likely a lake or bay. The sky is filled with dramatic, orange and yellow clouds, with the sun low on the horizon. In the background, there are silhouetted mountains and a prominent, rounded rock formation. The water reflects the warm light of the sunset. In the foreground, the dark silhouettes of evergreen trees are visible on the left and right sides. The word "Questions" is written in large, bold, blue letters, and a question mark is centered below it.

Questions
?

